

Kindling a Fire: Effective Questioning

This strategy increases the effectiveness of questioning by helping teachers to *pose* questions.

Teacher Preparation:

1. Study the material on the following pages.
2. Prepare strong kindling questions to spark students' thinking on the material to be discussed.

Lesson Plan:

1. Pose a question.
2. Allow students to think about the question.
3. Have students record their ideas.
4. Have students share their responses in pairs or small groups.
5. Direct students to
 - seek similarities between or among their responses
 - critique ideas
 - generate new ideas
 - draw conclusions
6. As a large group, collect and record ideas so they can be examined and explored further.

Adapted from *Rigor across the Curriculum*, a workshop conducted by Daniel R. Moirao for the Academically Gifted Department of the Wake County Public School System in November, 2006.

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There is a difference between asking and posing a question:

Asking	Posing
When a question is asked , the questioner is generally looking for <i>one</i> right answer and wants it quickly.	When a question is posed , it is an invitation to the student to think along with the questioner, to venture into unknown territory, and to see what kinds of answers can be developed or discussed together.

Kindling is a way to pose a question.

FIRE

Find a question that can be explored:

Create questions like these samples:

- Suppose the rivers in the United States flowed more east to west than north to south. How would that have changed the period of colonization?
- Why are Frog and Toad such good friends?
- How would you explain finding a square root to your little sister?

Why?

These questions can be explored because the whole point of posing a question is to help students understand and revise their own thinking processes. The emphasis is on *developing the process of thoughtful answering*, not just finding the right answer.

Internalize the question.

Ask the question slowly; give a setting, a bit of background information.

Maybe ask the question in different ways. Always tell your students to stop and think, to ask themselves what the question is asking for, and to restate the question in their own words.

Why?

Thoughtful questions need to be mulled over, thought about, even analyzed. Lots of students' answers are not productive because they are answering a different question than the one asked.

Record your thoughts.

When posing a question, refrain from using the word "answer."

Instead, ask for students' thinking. Encourage students to jot down their ideas, make some notes, and sketch out their thoughts.

Why?

You want to develop your students' thinking, not secure a particular answer. In addition, you want them to know that what they say once they begin their discussion is *provisional*. These are only their first thoughts. Last, you want to remember that **quality thinking takes time**. Note-making slows their thinking down, gets it out in the open where they can see it, but doesn't commit them to a final answer.

Exchange ideas with a partner.

Ask students to share their thoughts with a partner.

Have them look for similarities and differences and teach them to respond to each others' thoughts.

Why?

Thought is internalized conversation, and conversation develops and nurtures thinking.

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Compare and Contrast

C

Relate Personally

R

Evaluate

E

Associate & Imagine

A

Trace & Sequence

T

Enumerate

E

- ✎ Compare and contrast Frog and Toad as characters and as friends.
- ✎ What are the important differences in solving word problems where you are looking for the rate and those where you are seeking the distance?
- ✎ How are igneous rocks similar to and different from metamorphic rocks.
- ✎ Are Columbus and an astronaut more similar to or more different from each other?

- ✎ How would you feel if you were Harry Truman and you had to decide whether to drop the atom bomb?
- ✎ How have your feelings about Macbeth changed between the first act and the fifth?
- ✎ What are some possible feelings people might have about a new chemical plant opening in their town?
- ✎ What are your thoughts and feelings about our test on long division this Friday?

- ✎ Evaluate Harry Truman's decision to use the atomic bomb at the end of World War II.
- ✎ What are the advantages and disadvantages of building new industries in a small town?
- ✎ Which is more convincing in geometry: a direct or an indirect proof?
- ✎ What are the strengths and weaknesses of Macbeth's character?

- ✎ What words and ideas come to mind when I say the word, "Friendship"?
- ✎ How is Macbeth at the end of Act V like a "sputtering candle"?
- ✎ Is the earth's atmosphere more like a microwave or more like a quilt?
- ✎ Create a web showing ideas necessary to think about in solving time, rate, and distance problems.

- ✎ What are the principle steps in the development of the Roman Empire?
- ✎ How do you solve a long division problem?
- ✎ What should you do when you meet an unfamiliar word when you are reading?
- ✎ How does your body digest the food you eat?

- ✎ List the rules for maintaining good dental health.
- ✎ What are the five most important events in the Fall of the Roman Empire?
- ✎ What are six ways an author can attract a reader's interest at the beginning of a story?
- ✎ List eight different ways we use rational numbers.

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<p>Identify and Describe</p> <div>I</div>	<ul style="list-style-type: none"> Describe the important changes that occurred during your “Tornado in a Bottle” lab. Describe how Frances (in <i>Best Friends for Frances</i>) goes about deciding who her friend is. Describe Lincoln’s plan for Reconstruction. Describe what you observed while I was solving this problem on the area of an irregular polygon.
<p>Define</p> <div>D</div>	<ul style="list-style-type: none"> Define division and give examples. Define the Monroe Doctrine. What makes a reptile a reptile? What makes a friend a friend?
<p>Explore & Predict</p> <div>E</div>	<ul style="list-style-type: none"> What do you predict will happen when Frog and Toad go outside to test their courage? What if we changed this element in your lab? How would your results differ? What patterns do you see in the ways colonists adapted to their new environments? Look over these multiplication and division of fractions problems without computing their answers. What predictions can you make about their products and quotients?
<p>Argue & Explain</p> <div>A</div>	<ul style="list-style-type: none"> What evidence could you use to support or refute this statement: “Toad is a better friend than Frog is.” How would Louis XIV justify his role as an absolute monarch? Find the three errors in these subtraction problems and explain what led to each error. How would you explain why all life on earth depends on the sun?
<p>Summarize</p> <div>S</div>	<ul style="list-style-type: none"> Retell without looking one story from Arnold Lobel’s <i>Mouse Soup</i>. Summarize Hamlet’s “To Be or Not to Be” monologue. What would be a good headline for what we have learned in our study of penguins? How would you summarize what we have learned about polynomials?